

MA82

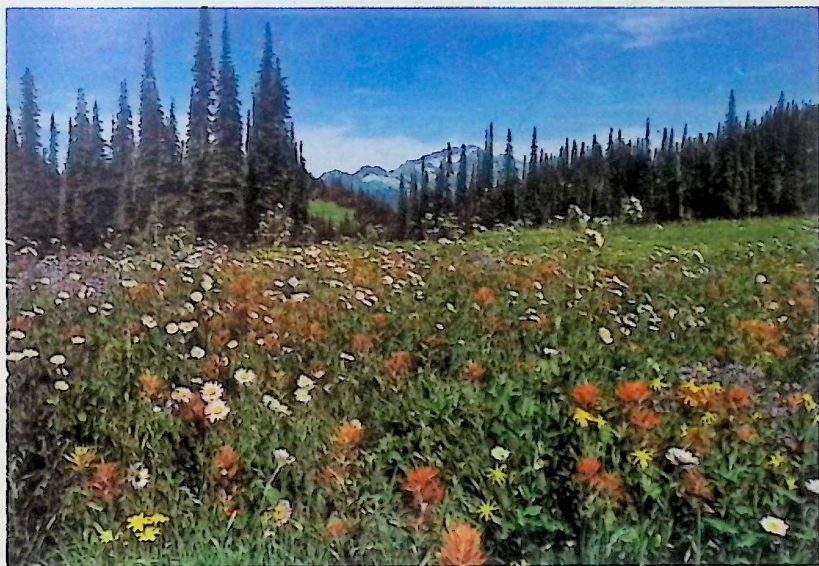
.8C213m

C.2

Natural History Series, No. 3

MOUNT REVELSTOKE NATIONAL PARK

WILD FLOWERS



James H. Soper

Adam F. Szczawinski

1944

**MOUNT REVELSTOKE
NATIONAL PARK**

WILD FLOWERS

**NATIONAL MUSEUMS OF CANADA
MUSÉES NATIONAUX DU CANADA
LIBRARY - BIBLIOTHÈQUE**

Natural History Series, No. 3

Produced for the

Botany Division
National Museum of
Natural Sciences

National Museums
of Canada

by the

British Columbia
Provincial Museum

Managing Editor
Harold Hosford, B.C.P.M.

Cover: Alpine floral display.

MOUNT REVELSTOKE NATIONAL PARK

WILD FLOWERS

James H. Soper

Adam F. Szczawinski

Published jointly by the

National Museum of Natural Sciences
National Museums of Canada

Parks Canada
Department of Indian and Northern Affairs

and the

British Columbia Provincial Museum
Victoria, B.C.

©Crown copyrights reserved

Available by mail
from the

National Museums of Canada
Marketing Services Division
Ottawa, Ontario
K1A 0M8

English Edition — ISBN 0-660-00003-2
French Edition — ISBN 0-660-00002-4

and the

British Columbia Provincial Museum
Victoria, British Columbia
V8W 1A1

Second quarter 1976

Catalogue No. NM 95-17/3

ISSN 0317-5677

P 0987654321
Y 79876

Printed in Canada
Disponible en français

TABLE OF CONTENTS

Introduction	VII
Vegetation	IX
Botanical Names	XI
Protection of Wild Flowers	XII
Arrangement of the Book	XII
Maps and Guides	XII
Acknowledgements	XIII
Species Accounts	XV
Glossary	89
Selected Literature	93
Index	95



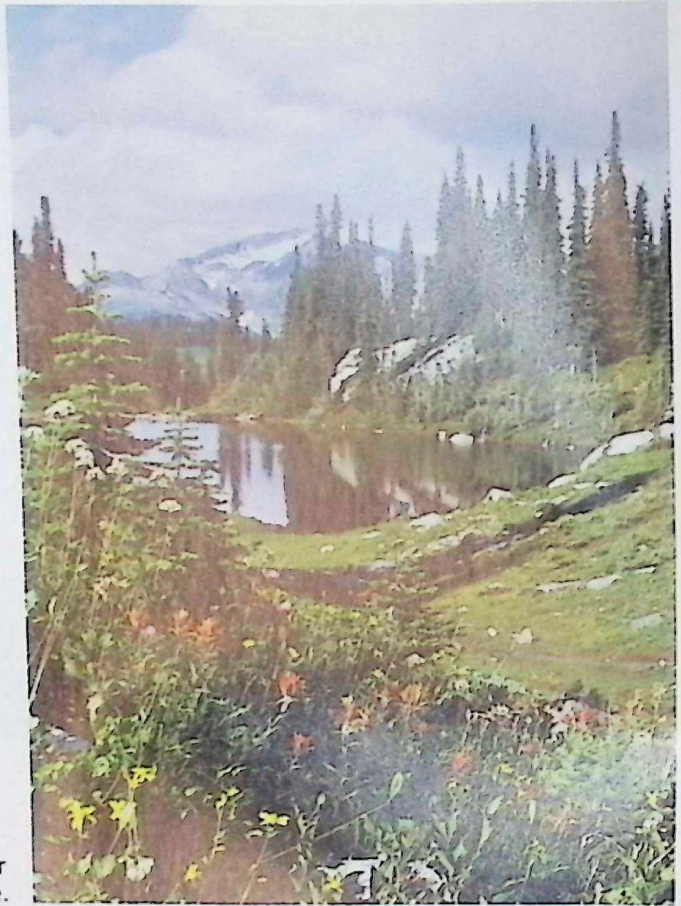


Ridge near Mt. Williamson.

INTRODUCTION

Mount Revelstoke National Park was officially established in 1914. It is located in the Selkirk Mountains of British Columbia, is flanked on the east by the Purcell Mountains, on the west by the Monashee Range, and lies about 15 miles (24 km) west of Glacier National Park on the Trans-Canada Highway. The park is readily accessible to visitors since the Trans-Canada Highway parallels its southern boundary for about 20 miles (32 km). Just outside the southwestern corner of the park, at the confluence of the Columbia and Illecillewaet Rivers, is the city of Revelstoke. Both the Trans-Canada Highway and the Canadian Pacific Railway cross the Columbia River at Revelstoke and proceed westward through Eagle Pass. At the southern edge of Revelstoke, there is a landing strip for light aircraft, thereby affording connections by commercial flights with Kamloops and the Okanagan region.

Direct access to the park is possible by automobile as far as the summit of Mount Revelstoke, located at approximately $51^{\circ} 03' \text{ N.}$, $118^{\circ} 08' \text{ W.}$ A mountain road, which begins at the Trans-Canada Highway just east of Revelstoke and enters the southwestern corner of the park, leads to the summit. The road climbs from about 1500 feet (450 m), by easy grades and a series of switch-back turns, for some 16 miles (26.5 km) to a parking area just



Meadow near
Heather Lake.

below the summit at about 6300 feet (1900 m). Allowing time for one or two stops at scenic lookouts, the drive takes about one hour.

Mount Revelstoke National Park comprises some 100 square miles (25,900 hectares) of rugged and scenically attractive mountainous terrain. There is an extensive snowfield with glaciers in the process of retreating, jagged mountain peaks, some over 8000 feet (2500 m) high: Mount Dickey - 8280' (2524 m), Mount Cyr - 8510' (2594 m), Mount Klotz - 8525' (2598 m), Mount Coursier - 8620' (2627 m), several crystal-clear glacial lakes, numerous rushing streams, as well as expanses of rocky tundra, scree slope, alpine meadow, subalpine parkland and densely forested slopes.

The park has a heavy annual precipitation, including an average snowfall of more than 30 feet (9 m). It is often mid-July before the snow has disappeared from the alpine meadows and in shaded spots it may last all summer. The first wild flowers to bloom are the Glacier Lilies, which come up through the edge of the melting snow cover. Soon the clearings, alpine meadows and rocky slopes are alive with the white, yellow, pink, red, purple and

blue flowers of Anemone, Valerian, Arnica, Mountain Daisy, Indian Paintbrush, Purple Beard-tongue and Lupine. Because of the late snow-melt, the flowering season is compressed into four to six weeks, which explains the richness of flowering in the relatively short summer at high elevations. Any time after mid-August there may be snow again on the high slopes and alpine meadows.



Subalpine zone.

VEGETATION

There are two main types of vegetation in the park—forest and alpine. A third, intermediate, type is the subalpine, which is a semi-open, park-like transition zone occurring at timberline where forest grades into alpine meadow. The walking trail from Revelstoke and the drive by automobile from the main highway to the summit both afford an excellent opportunity to observe the gradual changes in the composition of the forest.

The lower slopes are heavily wooded with a mixed forest of conifers and deciduous species. The trees are mainly Western Hemlock, Western Red Cedar, Engelmann Spruce, White Birch, Trembling Aspen and Black Cottonwood, with other species, such as Lodgepole Pine, abundant here and there. The understorey contains smaller trees and numerous shrubs, for example, Yew, Douglas Maple, Bitter Cherry, Mountain Alder, Mountain Ash, Elder, Hazel, Thimbleberry, Black Twinberry, Devil's Club and Ceanothus. Ground cover in this forest includes Bracken, Sarsaparilla, False Box, Bunchberry, Twinflower, Pipsissewa, Columbine and Foam-flower.

Above 4000 feet (1225 m), the forest is quite different with conifers predominating, chiefly Engelmann Spruce, Alpine Fir and Mountain Hemlock. Mountain Ash is now joined by White Rhododendron, Black Mountain Huckleberry and False Azalea, together with such showy herbaceous perennials as Indian Hellebore, Tiger Lily and several Arnicas.

Before the summit is reached, or above 5500 feet (1675 m), the road passes into the subalpine zone with frequent clearings occupied by meadows. Here, and at the summit, the spruce and fir trees have the typical slender spire-like form of deep-snow country. Much of the area around the summit itself is covered by alpine meadows on both gentle and steep slopes, with scattered clumps of spruce and fir, or occasionally with Mountain Hemlock, as well.

To see the full range of alpine vegetation, it is necessary to visit areas away from the summit. This is easily done by following the trails which lead from the summit to Eva Lake, Millar Lake and to the Jade Lakes. These trails cross beautiful alpine meadows, wander through subalpine parkland, traverse scree slopes and pass over rocky ridges until, near Mount Williamson on a ridge between Millar Lake and Upper Jade Lake, an elevation of about 7000 feet (2135 m) is reached.

In the alpine areas, only stunted trees of spruce and fir are found or occasionally a dwarfed specimen of Mountain Hemlock or White-bark Pine, but there are many low or prostrate shrubs as well as a great variety of hardy and showy herbaceous perennials. White and Red Mountain Heather, Creeping Spiraea, Crowberry, Dwarf Willow and Dwarf Blueberry form patches or carpet the ground. The meadows are covered with Anemone, Avalanche Lily, Lupine, Mountain Daisy, Indian Paintbrush, Arnica, Valerian, Lovage, Monkey-flower, Indian Hellebore, Alpine Hawkweed, Lousewort and Giant Ragwort. Seepage slopes display clumps of Mountain Marsh Marigold, Globeflower, Grass-of-Parnassus, Veronica and Alpine Buttercup. On rocky ridges and scree slopes are cushions of Moss-Campion, patches of Pussy Toes, Beard-tongue, Dwarf Goldenrod, and clumps of Bluebell, Mountain-Sorrel, Mountain Sandwort, Rock Cress and several kinds of Saxifrage.

BOTANICAL NAMES.

The botanist uses scientific (technical) names for plants because they are more precise than common names and because they are understood by other botanists all over the world. Common names are often confusing because one name may be used for two or more different kinds (species) of plants and more than one name may be applied to a single kind of plant. Common names in English may be meaningless or of little interest to someone whose everyday language is French, German, Russian, Chinese, etc.

At first, the non-botanist and even the amateur naturalist may be intimidated by the unfamiliar latinized botanical names for plants. However, if a little time is taken to understand their origin and structure, these names turn out to be quite logically constructed and frequently helpful in remembering some identifying feature or item of historical interest about the plants to which they refer.

Each botanical name consists of two parts, comparable to the way in which we give names to people belonging to different families. In plants, however, the first part of the name tells the group (called the *genus*) to which the plant belongs, for example, *Rosa*, which means a rose. This is the same as the surname or family name such as a Smith, a Bentham, or a Darwin. The second part of the botanical name indicates a particular member of the group (called a *species*), for example, *gymnocarpa*, which means "naked-fruits". This is comparable to the given name of an individual, such as *James Smith*, *Joseph Bentham*, or *Charles Darwin*.

The botanical name *Rosa gymnocarpa* is therefore specific for a particular kind of rose even though thousands of individuals (separate plants) of that kind may exist in nature. The use of two-part botanical names, the genus and species, is referred to as the Binomial System of Nomenclature. A similar system is in use for naming animals, including man (*Homo sapiens*), and there are International Rules of Nomenclature to regulate the formation and application of these binomials for the Plant and Animal Kingdoms.

In the Plant Kingdom, the term family is also used, but it is a higher category or level at which a number of related groups (genera) are brought together. For example, the genus *Rosa* (Roses) is put with many other genera, including *Prunus* (Cherries and Plums), *Pyrus* (Pears), *Sorbus* (Mountain Ash), *Malus* (Apples), *Rubus* (Raspberries and Blackberries) to form a family called *ROSACEAE* (Rose Family). This simply means that these plants are more closely related to one another than they are, for example, to Peas, Beans, Vetches, Clover and Lupines, which are placed in a different family, *LEGUMINOSAE*, the Pea Family. The most comparable situation in the naming of people might be the reference to certain families belonging to clans, races or ethnic groups.

Botanical names are not always descriptive in their origin. Some are commemorative, for example, *Linnaea borealis* (Twin-flower), named after the famous Swedish naturalist, Linnaeus, who introduced the Binomial System of Nomenclature, and *Spiranthes romanzoffiana* (Ladies' Tresses), named after a Russian Minister of State, Romanzoff.

PROTECTION OF WILDFLOWERS

Because of the large increase in the size of the areas occupied by cities and given over to industrial development, as well as large-scale alterations of the environment by man (cutting down forest, flooding valleys for power projects, etc.), it is essential to preserve wild flowers in their natural surroundings. They are a part of our natural heritage and should be conserved for future generations to enjoy.

Our national parks have been set up as conservation areas and wildlife sanctuaries so that we may see the plants and animals of those areas under conditions which are as nearly undisturbed as possible. It is against the law to pick or dig up any wild plant in a national park. This does not prevent the visitor from admiring and photographing the wild flowers. There is the challenge of looking for different kinds of flowers, the pleasure of finding them, and the satisfaction of photographing them in their native habitat without depriving the next passerby of similar enjoyment.

ARRANGEMENT OF THE BOOK

In the pages which follow, some of the common and more interesting shrubs and wildflowers which the visitor can see along the trails and in the alpine areas are illustrated and briefly described. The descriptions employ a minimum of botanical terms and, for the non-botanist, these have been defined in the Glossary or explained by means of diagrams (see pages 89-92).

The species have been arbitrarily arranged according to the colour of their flowers, beginning with the white-flowered, then the yellow, greenish, orange, red, pink, purple and finally the blue. Of course, the colours may be intermediate, such as pinkish-purple (magenta), or they may vary as from pink to white or from white to cream-coloured, which might be interpreted as pale yellow. Therefore, it may be necessary to look in more than one group to find a particular wild flower.

MAPS AND GUIDES

Descriptive folders, maps of the parks and trail guides for both Mount Revelstoke and Glacier are available at the Park Administration Office in the Federal Building at Revelstoke.

ACKNOWLEDGEMENTS

The authors wish to express their thanks to the Director of the National and Historic Parks Branch, Parks Canada, and to the Superintendent and Park Naturalists of the local office at Revelstoke, for assistance in the field work. The coloured illustrations have been prepared from transparencies and negatives taken by Ian G. Forbes, Courtenay, B.C., excepting as follows: Cover and page IX, R.D. Muir, Parks Canada; pages 25, 28, 43, 44, 49, 70, and 72, E. Haber, National Museum of Natural Sciences; pages VII, 31, 35, 42, 55, 73, 76, and 86, J.H. Soper, National Museum of Natural Sciences; pages 2, 33, 37, 38, and 56, B.C. Parks; pages 48, 67, 81, 84, and 87, Ching-Chang Chuang; pages VIII, 39, 79, and 82, Shannon E. Campbell; pages 30, 64, and 71, Parks Canada; page 6, A.F. Szczawinski; page 29, Audrey Burnand; and page 41, Nancy Turner.



SPECIES ACCOUNTS





JUNEBERRY
(Rose Family)

Amelanchier alnifolia

A small to medium-sized shrub, depending on the exposure of the habitat varying from 3 to 10 feet (1 - 3 metres) in height. Its oval to roundish leaves have small sharp-pointed teeth chiefly near the tip. The leaf blade is $\frac{1}{2}$ - 2 inches (2 - 5 cm) long and is borne on a slender leaf stalk at least half as long as the blade.

The showy white flowers, which appear in late spring or early summer, are borne in rather dense elongate clusters. The berries develop during the summer and are first reddish, then blue to purple-black with prominent seeds when ripe. They are round to pear-shaped, borne on slender stalks, each with a tuft of persistent calyx-lobes at the free end.

Also called Saskatoon Berry and Service Berry, the fruits are edible, often juicy and of good quality. They may be eaten raw, cooked in pies and sauces or made into jelly or jam. Formerly the berries were used by Indians to make pemmican by pounding them with cornmeal, meat or other food materials.

Flowers White



BITTER CHERRY
(Rose Family)

Prunus
emarginata

Bitter Cherry may grow as a shrub or a small tree 10 to 30 feet (3 - 10 metres) tall, depending on the habitat and location. The bark of the main stems or trunk is reddish-brown with prominent lenticels. The leaves are oval to oblong-lanceolate, 1 - 4 inches (2 - 10 cm) long, those borne in clusters from the old wood are blunt-tipped while those scattered along the current year's shoots are often sharp-pointed. There are usually small glands at the base of the leaf blade at its junction with the leaf stalk, and the margins of the leaves have many fine rounded teeth.

The white flowers are produced in short clusters of 3 to 10 and the fruit is a bright red bitter or astringent-tasting cherry with a large ellipsoidal stone.

This shrub is common near the ski hill at the foot of Mt. Revelstoke and on the slopes, mostly at the lower elevations.



Flowers White

THIMBLEBERRY
(Rose Family)

Rubus parviflorus

A close relative of the garden Raspberry, this shrub has erect freely branching woody stems with papery flaking bark but no spines or prickles. It grows to a height of 6 or 7 feet (2 - 2.5 metres) and may form thickets in clearings or on open slopes.

The large, soft-hairy leaves are 6 to 8 inches (15 - 20 cm) across, palmately 3-7-lobed, with a deep cleft at the base. They are borne on a prominent leaf stalk which is often as long as the conspicuously jagged-toothed blade.

The five-parted flowers are white, 1½ - 2 inches (3 - 5 cm) across and resemble delicate single white roses when fully open. They appear in clusters of 3 to 10 at the ends of the branches. The fruit is a thin, cap-shaped red berry which is edible, if somewhat insipid to the taste. It may be used in jam or jelly but is not as tasty as other wild raspberries or blackberries.

The thimbleberry is found from low elevations up to nearly 4000 feet (1300 metres).

Flowers White



SITKA MOUNTAIN ASH
(Rose Family)

Sorbus sitchensis

In parks and gardens the Mountain Ash is familiar to many as a tree with attractive clusters of red berries in the fall or lasting into winter. The native species, however, are usually smaller and have two or more stems from the ground, thus developing a shrubby growth habit.

Sitka Mountain Ash grows to a height of 9 to 12 feet (3 - 4 metres) and may have only a few stems with tufts of leaves at the ends or may form a dense bushy thicket. The leaves are pinnately compound, 6 - 10 inches (15 - 25 cm) long, the oblong leaflets coarsely and sharply toothed except near their point of attachment. The small white flowers are borne in flat-topped clusters and develop into showy red berries.

This is a montane species, found along trails and roadsides, in clearings or at the edge of the forest, occasionally at timberline but rarely in alpine zones.

The raw berries are rather mealy and bitter, but may be used to make jelly. They are often consumed in large quantities by birds.

Flowers White



QUEEN'S CUP, ONE-FLOWERED CLINTONIA *Clintonia uniflora*
(Lily Family)

The slender flower-stalk is hairy, about 6 inches (15 cm) high, and usually bears a single saucer-shaped 6-pointed white flower which lasts only a short time. The two or three leaves are basal, stark glossy green with smooth margins. Later, the flower is replaced by a solitary smooth, dark blue berry.

It is commonly found in damp coniferous woods in the montane and subalpine zones, often in moss mats; rarely above the timberline.

Flowers White



FALSE SPIKENARD
(Lily Family)

Smilacina racemosa

A herbaceous perennial with an ascending, or gracefully arching, leafy stem up to 3 feet (9 dm) long. The large leaves, up to 8 inches (20 cm) or more in length, are broadly lanceolate to elliptic, broadest near the middle, borne alternating in two rows on opposite sides of the somewhat zig-zag stem. They may be very short-stalked or clasping at the base. The creamy-white flowers are tiny but numerous in a terminal erect or drooping conical inflorescence with short spike-like side branches. The fruit is a cluster of many red or purplish-red berries about the size of a pea which have a flavour suggesting bitter molasses. They are also cathartic and should be either avoided or eaten with caution.

To be seen in open moist woods and clearings, along banks, edges of woods and roadsides.

ST-642



Flowers White

LADIES' TRESSES
(Orchid Family)

Spiranthes
romanzoffiana

A fleshy-stemmed orchid up to 2 feet (6 dm) tall with thickish, broadly-linear grass-like leaves mostly near the base of the stem and a terminal showy white spike of tubular flowers crowded in three spirally-twisted ranks. The flowers have a sweet, somewhat heavy, fragrance.

Often common in wet meadows or depressions and on damp gravelly or rocky slopes, occasionally in moist roadside ditches.

This orchid was named in honour of a Russian minister of state and patron of the sciences, Nicholas Romanzoff (1754-1826).

Flowers White



**GREEN-LEAVED
RATTLESNAKE
ORCHID**
(Orchid Family)
*Goodyera
oblongifolia*

The flowering stalk, which may be up to 2 feet (6 dm) high, arises from a basal rosette of dark green, fleshy leaves which have a conspicuous network of white veins on their upper surface. The leaves are broadly ovate, 1 - 3½ inches (2.5 - 9 cm) long and pointed. The numerous small flowers are glandular-hairy, arranged in a somewhat one-sided, often crowded, terminal spike. The portion of the stem below the flowers bears several sessile or clasping brownish bracts.

This orchid normally grows in rich humus or on moss-covered soil in the forest at lower elevations. It multiplies vegetatively by producing offsets at the tips of short runner-like stems which grow out horizontally below the basal rosette of leaves. Sterile rosettes are often quite abundant in the forest.

597-767



Flowers White

**MOUNTAIN
SANDWORT**
(Carnation Family)
*Arenaria
capillaris*

Creeping or spreading by means of its slender but tough scale-covered branching woody stems, this plant often forms dense mats or cushion-like masses anchored by a deep tap root. It produces many capillary, pale or bluish-green and purple-tinged, leaves in rosettes or upright tufts at ground level and a few pairs of similar, but shorter, hair-like leaves on each erect flowering stem. The flowering stems are usually numerous and become entangled with one another at their branching tips. The flowers, five-parted, white and about 1/4 inch (6 mm) long, are later replaced by straw-coloured, urn-shaped capsules which split open at the tip.

A characteristic plant of rock slides and ridges in the alpine zone.

Flowers White

57-75



MOUNTAIN MARSH MARIGOLD
(Buttercup Family)

Caltha leptosepala

Although the lowland species of Marsh Marigold is yellow-flowered, this mountain-dweller bears showy white flowers tinged with blue on the back. Each flower is composed of five to ten petal-like segments and appears at the end of a smooth, hollow stem which continues to grow after flowering to a length of 12 inches (30 cm) or more. The open flower measures up to 1½ inches (4 cm) across and has a bright yellow centre composed of stamens and pistils. The leaves are long-stalked, with a round, oval to heart-shaped blade, and are chiefly basal. The seeds are borne in an upright vase-like cluster of papery pods (follicles).

The fresh plants are known to be poisonous to livestock, but a related species (*Caltha palustris*) is sometimes used as a potherb in early spring. According to some authorities the leaves must be thoroughly cooked to drive off any toxicity.

It occurs on seepage slopes below melting snowbanks and along streams in the alpine and subalpine zones.



Flowers White

GLOBE FLOWER
(Buttercup Family)

Trollius
laxus

A handsome flower of spring and early summer with individual, golden-centered, white flowers, 1 - 1½ inches (20 - 35 mm) across, that resemble the anemone when open. They have five to seven white, petal-like segments, often gray-green or rosy-tinged beneath, and a central yellow tuft of stamens and pistils. The leaves, though deeply palmately lobed, are not as lacey as those of the anemone. There are several leaves along the flowering stem in addition to a cluster at its base. The fruit is a long-stalked group of many-seeded papery pods in a vase-like upright cluster.

The globe flower grows in marshy places along streams near timberline and in damp meadows.

It gets its name from the shape of flower buds which are spherical.

Flowers White



BANEBERRY
(Buttercup Family)

Actaea
rubra

The Baneberry is a tall herbaceous perennial of woodlands. The stem grows from a woody underground rootstock and may reach a height of more than 3 feet (9 dm). It bears one to three large compound leaves which are tripartite with many oval coarsely toothed pointed leaflets. The flowers, which are small and borne on stalks in a terminal cylindrical cluster, mature into glossy red berries about the size of a large pea, which, although attractive, are considered poisonous, often producing symptoms of severe gastroenteritis when eaten.

It occurs in mixed woods and may be seen along the trails at lower elevations.



Flowers White

**WESTERN
ANEMONE**
(Buttercup Family)
*Anemone
occidentalis*

The large flowers of the Western Anemone open early in the spring just as the leaves are beginning to expand. The flower opens as a white cup, usually with a mauve tint on the outside and is borne on a woolly-covered stem just above a tuft-like whorl of expanding ferny leaves. The stem leaves and the long-stalked, finely-dissected basal leaves expand greatly by late summer when the flower has changed to a conspicuous, tousled fruiting head of feathery long-tailed seeds at the top of its tall stem.

Anemones are considered poisonous by many authorities and have been suspected of causing livestock losses in North America.

A common and characteristic plant of moist alpine meadows, mossy slopes and clearings of the subalpine zone.

Flowers White



**LEATHER-LEAVED
SAXIFRAGE**
(Saxifrage Family)
*Leptarrhena
pyrolifolia*

A low, leafy-based plant 8 - 16 inches (20 - 40 cm) high with a cluster of oblong, coarsely round-toothed leaves borne at the end of a horizontal or ascending thickish rootstock. The basal leaves are leathery, 1 - 4 inches (2 - 10 cm) long, green and lustrous above, paler beneath, tapered at the base to a broad petiole. The one to three stem leaves are much smaller than the basal leaves and sessile. The numerous minute white to pinkish flowers are not showy but the seeds are produced in pointed papery pods which form bright red clusters in midsummer and from a distance may be mistaken for flowers.

Along alpine streams and in damp shaded places throughout the higher altitudes.

It could be used as a ground cover in cool moist locations.



SPOTTED SAXIFRAGE
(Saxifrage Family)

Saxifraga bronchialis

A tufted plant forming dense mats or cushions, the crowded much-branched stems clothed with persistent dark brown to reddish leaves and the tips of the branches bearing clusters of fresh green, leathery needle-like bristly leaves. The numerous small white flowers are borne on loosely spreading, and easily entangled, scaly-bracted branched stems, 4 - 8 inches (10 - 20 cm) above the leafy cushion. Each flower looks like a five-pointed star and its petals are spotted with orange to maroon-coloured dots.

A common rock-inhabiting species at higher elevations, growing in rock crevices and on scree slopes, often massed in profusion.

Flowers White



RUSTY SAXIFRAGE
(Saxifrage Family)

Saxifraga
ferruginea

Rusty Saxifrage may be seen on moist gravelly banks along the roadside near the park summit as well as in crevices of rocky outcrops on exposed ridges and slopes above timberline. The pale green to reddish leaves are 1 - 2 inches (2 - 5 cm) long and are densely crowded in a rosette at ground level. They are elliptic to oblong with prominent sharp teeth on the upper half of the margins and scattered, short crinkly hairs on both surfaces. The flowering stems, from 5 - 20 inches (12 - 50 cm) high, are much-branched, often from near the ground. Adjacent stems in a colony become entangled easily due to the presence of glandular hairs along the branches. The small flowers, about 1/4 inch (6 mm) long, are white, with three broader petals bearing two rusty spots and two slender spotless ones.



Flowers White

**RED-STEMMED
SAXIFRAGE**
(Saxifrage Family)
*Saxifraga
lyallii*

Clumps of coarsely-toothed, long-stalked, light green leaves arise from the tip of a fleshy rootstock, at ground level or, partially embedded in moss mats. The small, white star-shaped flowers are borne on slender stalks in a branched inflorescence 4 - 12 inches (10 - 30 cm) high and are replaced later by brownish 3-pointed erect capsules.

Found chiefly in the subalpine zone along streams, often embedded in moist mossy banks.

Flowers White



**FALSE MITREWORT,
FOAM-FLOWER**
(Saxifrage Family)
*Tiarella
unifoliata*

A low perennial herb with mostly five-lobed heart-shaped thin leaves at the base and erect few-leaved stems bearing lacy open terminal clusters of small white or creamy-white delicate flowers. The basal leaves occur in groups on long wiry stalks crowded at the tips of the superficial underground stem. They have prominent rounded teeth around the margins of the three, five or seven-lobed blades which are 1 - 3½ inches (2 - 9 cm) across. The flowering stems, up to 16 inches (4 dm) long, are slender, smooth below but with small glandular white hairs on the upper portion, and bear a few, stalked to nearly sessile, small leaves below the narrowly cylindrical cluster of slender-stalked flowers.

Found in rich damp woods, along mountain streams and shaded areas at the edges of swamps.



Flowers White

**FRINGED GRASS-
OF-PARNASSUS**
(Saxifrage Family)
Parnassia
fimbriata

The white, five-parted star-shaped flowers are borne singly on stalks 6 - 15 inches (15 - 40 cm) long which have a small ovate or spear-shaped bract midway between the flower and the base of the plant. At the base there is a rosette of long-stalked dark green, glossy, round or kidney-shaped leaves growing from the tip of a short fibrous-coated woody stem. The white petals are lightly veined with green and delicately fringed at the base. The flowers are particularly showy when a colony of many stems occurs against the back-drop of a mossy bank or damp rock surface.

This plant is found in wet meadows along streams and mossy banks or in open boggy ground.

Flowers White



CREeping SPIRAEA
(Rose Family)

Luetkea
pectinata

The slender, branching woody stems of this plant creep over the surface of the ground, forming extensive mats. The tips of the branches bear tufts of small fan-like deeply cleft and divided leaves. The erect flowering stems, which are only 2 - 6 inches (5 - 15 cm) high and bear a series of stalked fan-shaped leaves less than an inch (2.5 cm) long, terminate in a cylindrical cluster of many tiny white flowers.

This plant carpets the edges of trails and borders of coniferous woods in the subalpine zone; it also covers rocks and forms patches in the alpine meadows.



Flowers White

GOAT'S-BEARD
(Rose Family)

Aruncus
sylvester

A perennial herb, which may be 3 - 8 feet (9 - 24 dm) tall, bearing very large pinnately compound leaves and conspicuous sprays of tiny creamy-white flowers on the slender spikes of a much-branched terminal flower cluster. The individual leaflets are ovate, doubly-toothed and tapered to a long, tail-like tip. Male and female flowers are borne on separate plants. In fruit, the myriads of female flowers are replaced by minute reflexed sharp-pointed brownish capsules.

The Goat's-Beard inhabits damp shaded spots in moist woods and along the banks of streams, usually in the montane zone and at lower elevations.

Flowers White



OCEAN SPRAY
(Rose Family)

Holodiscus discolor

A much-branched erect shrub reaching a height of 6 - 15 feet (2 - 5 metres) with alternate stalked ovate leaves 1 - 2 inches (2 - 5 cm) long, dark green above and much paler beneath. The leaf margins are irregularly lobed above the broad base and the lobes are toothed. The diffuse arrangement of flowers is indicated by the common name. The creamy-white flowers are tiny and numerous, borne in immense feathery or spray-like clusters at the ends of the branches.

Most conspicuous when in bloom, this shrub occurs in open mixed woods, in thickets and on rocky slopes, mostly at lower elevations.

Flowers White



CREeping RASPBERRY
(Rose Family)

Rubus pedatus

A trailing prostrate vine with slender thornless stems which root easily at the nodes to form carpets of interwoven stems on the forest floor or over moss-covered logs. The three to five-parted leaves are palmately compound, borne singly at the well-spaced nodes along the current growth and in clusters on short spurs from the previous year's stem. The leaves are usually less than 2 inches (5 cm) across and the leaflets are conspicuously toothed. The flowers are solitary with five white petals about as long as the sepals. The fruit is a red edible berry composed of 1 - 5 juicy drupelets.

In open woods along banks and trails in the montane zone.

Flowers White



WHITE VIOLET
(Violet Family)

Viola renifolia

A small violet less than 3 inches (7 cm) high without an erect leafy stem. The broadly rounded to kidney-shaped leaves are all basal, arising at the tip of a fleshy upright or ascending rootstock. The individual small white flowers arise from the same point on slender leafless stalks about the same length as the leaves. The tips of the leaves are blunt and their margins are irregularly wavy-toothed. The capsules split open when ripe and may, in length, temporarily surpass the leaves on their slender but soon withering stalks.

On damp shaded banks along trails and streams; also in sedge meadows up to 5500 feet (1675 m) altitude.



Flowers White

COW-PARSNIP
(Carrot Family)

Heracleum
lanatum

This is a giant perennial herb which may reach a height of 10 feet (3 metres). It has a cluster of slender parsnip-like roots from which arises the stout and prominently-ribbed hollow stem bearing a series of large, deeply-lobed and sharp-toothed trifoliate leaves often measuring more than 12 inches (30 cm) across. Each leaf clasps the stem by means of a conspicuously inflated pale base. The individual creamy-white flowers are minute and produced by the hundreds in several large and showy, umbrella-like clusters at the summit of the stem. The seeds are contained in flattened oval-shaped papery fruits. The plant has a pungent aroma, but despite this the fresh young leaf-stalks and stems, when properly prepared, are as palatable as celery.

Cow parsnip is found in open areas usually in moist soil along streams and ditches or in damp meadows at all but the highest elevations.

Flowers White



BUNCHBERRY
(Dogwood Family)

Cornus
canadensis

This is a relative of the well-known flowering dogwood. It is a dwarf species, common in coniferous woods across Canada. It grows singly or forms patches from its underground rootstock which gives rise freely to the erect leafy stems. The elliptic to broadly-oval leaves are mostly arranged in whorls of four to six at the end of the stem at a height of 3 to 8 inches (8 - 20 cm) above the ground. The leaf blades are smooth and entire with prominent veins curving towards the tip. Flowering stems usually have an extra pair of small opposite leaves midway along the stem.

At a distance the flower appears to have four broad white petals and a yellowish-green center. In reality, the center consists of a cluster of minute four-parted flowers which are surrounded by white leaves (bracts). The bracts soon fall and the central flower cluster becomes a tight bunch of bright red berries. In autumn the leaves turn attractive shades of red, bronze and purple.

In addition to forming a carpet on the forest floor, usually under conifers, the bunchberry also covers fallen logs and even climbs a short distance up the sides of large stumps and tree trunks.

Flowers White

570-529



ONE-SIDED WINTERGREEN
(Heather Family)

Pyrola secunda

The leaves are evergreen, borne close to the ground on branches which arise from a slender wiry underground rootstock. They are ovate, $\frac{1}{2}$ - $1\frac{1}{2}$ inches (1 - 4 cm) long, with a well-developed stalk. The flowering stems are leafless or have one or two green, scale-like bracts. The flowers are arranged in a row, hanging, like little white or greenish-white bells, from the upper part of the stem which is bent over, seemingly under their weight. Each flower has a prominent dark style with a knob-like tip which projects beyond the corolla and persists on the roundish capsule which develops later. The flowering stem straightens up as the capsules mature but their one-sided arrangement is usually still obvious. The mature stems are less than 6 inches (15 cm) high.

On banks along trails and in mossy coniferous woods in the montane zone and at lower elevations.

Flowers White



**ONE-FLOWERED
WINTERGREEN**
(Heather Family)
*Moneses
uniflora*

A small delicate herb, usually less than 4 inches (10 cm) high with two to seven small, broadly oval, finely-toothed leaves borne in pairs or in whorls of three at the end of a slender rootstock. Each leafy stem produces a single flower, nodding or drooping at the summit of the long peduncle which bears one or two small bracts. The flower is waxy white, fragrant, with five petals, ten stamens and a prominent green style projecting from the center. The fruit is a small brown roundish capsule which is held upright when mature.

Grows in coniferous woods, often in mossy carpets or on hummocks.



Flowers White

**INDIAN PIPE,
GHOST FLOWER**
(Heather Family)
*Monotropa
uniflora*

A saprophytic plant lacking chlorophyll, its stems, leaves and flowers are waxy white to pale pink, turning brown and finally black with age. Usually found growing in a clump, many stems arising from a subterranean matted mass of specialized roots (mycorrhiza). Each stem bears a series of scale-like leaves and a single nodding, narrowly bell-shaped flower about 6 inches (15 cm) above the ground. In fruit the stems elongate to twice that height each with its upright capsule surrounded by flower remnants.

Inhabits shady coniferous woods.

Flowers White



**WHITE-FLOWERED
RHODODENDRON**
(Heather Family)

Rhododendron albiflorum

An erect slender-branched shrub which may reach a height of 6 feet (2 metres). The White-flowered Rhododendron has rather thin elliptic leaves which are dark green above and paler beneath. It is deciduous and the leaves tend to be clustered at the ends of the branches. The white to greenish-white bell-shaped flowers, which are about $\frac{3}{4}$ inch (2 cm) across, are borne on the branches of the previous season and appear singly or in clusters of 2 - 4 below the leaves.

Common along the edges of alpine fir stands and on moist subalpine slopes.

577-755



**MOUNTAIN HEATHER,
WESTERN MOSS HEATHER**
(Heather Family)

Cassiope mertensiana

A mat-forming alpine shrub with trailing or creeping stems, which root along their lower surface, and upright or ascending branches completely covered with four rows of appressed, blunt scale-like leaves about 1/8 inch (3 - 4 mm) long. The small, creamy-white bell-shaped flowers, 1/4 - 1/2 inch (5 - 10 mm) long, appear from the axils of leaves near the tips of the branches. Each flower hangs down on a slender, curved stalk which becomes erect when the roundish capsule matures.

Found on alpine rocky slopes and in meadows around the timberline. It often blooms profusely near stands of alpine fir.

Flowers White



SLENDER WINTERGREEN
(Heather Family)

Gaultheria ovatifolia

A low shrub, mostly creeping or trailing along the ground, but with short, erect or ascending branches bearing ovate, short-stalked evergreen leaves. The leaves are leathery, dark green, glossy above and paler beneath, their margins thickened and bearing some minute bristle-tipped teeth. The small, white bell-shaped flowers are produced singly in the axils of the leaves at the tips of the branches and the fruit is scarlet red, many-seeded and berry-like.

Usually found in coniferous woods and shaded areas on subalpine slopes.



Flowers White

STAR-FLOWER
(Primrose Family)

Trientalis arctica

A small plant 2 - 10 inches (5 - 25 cm) high with a whitish underground fleshy or tuberous rootstock and an erect, unbranched stem bearing five to twelve leaves. The uppermost leaves are largest, usually in a whorl of five to seven, the lower, scattered along the stem. The small, white, seven-pointed, star-like flowers arise from the center of the whorl of leaves at the summit of the stem on thread-like stalks. The leaves are oval, usually widest beyond the middle and are seldom more than 1 inch (2.5 cm) long.

In coniferous woods and other shady, mossy places.

Flowers White

**VALERIAN,
WILD HELIOTROPE**
(Valerian Family)
*Valeriana
sitchensis*



A tall herbaceous perennial 1 - 4 feet (3 - 12 dm) high with a somewhat succulent stem arising from the tip of a stout cord-like rootstock. Its large leaves are thick and watery and divided into five to seven, coarsely-toothed oval segments. At the summit of the stem the small but numerous fragrant, tubular flowers are crowded into conspicuous flat-topped clusters.

Valerian grows in moist habitats from lowland stream banks to wet meadows on subalpine and alpine slopes. Its flowers are usually above the general level of the other vegetation and therefore conspicuous. They attract many insects.

377/775



COTTON-GRASS
(Sedge Family)

Eriophorum chamissonis

This plant is recognized by the single, white to tawny-coloured, cottony tuft borne at the tip of an erect slender green stem and not by its minute and insignificant yellowish flowers hidden at the base of a series of small, overlapping scales.

Each stem has several leaves which arise at or near ground level. Some leaves consist only of a slightly inflated sheath but others bear in addition a slender, channeled blade one-quarter to one-third the length of the flowering stem.

A related species, *Eriophorum angustifolium*, has longer leaves and 2 - 6 or more flowering spikes from the axil of terminal slender bracts. The flowering spikes also become transformed, in the mature seed stage, into cottony tufts which are usually nodding and the dark-coloured scales at the base of each tuft are quite conspicuous.

These sedges grow in marshy ground, especially on seepage slopes in alpine and subalpine areas. In spite of the common name, they are not true grasses.

Flowers White

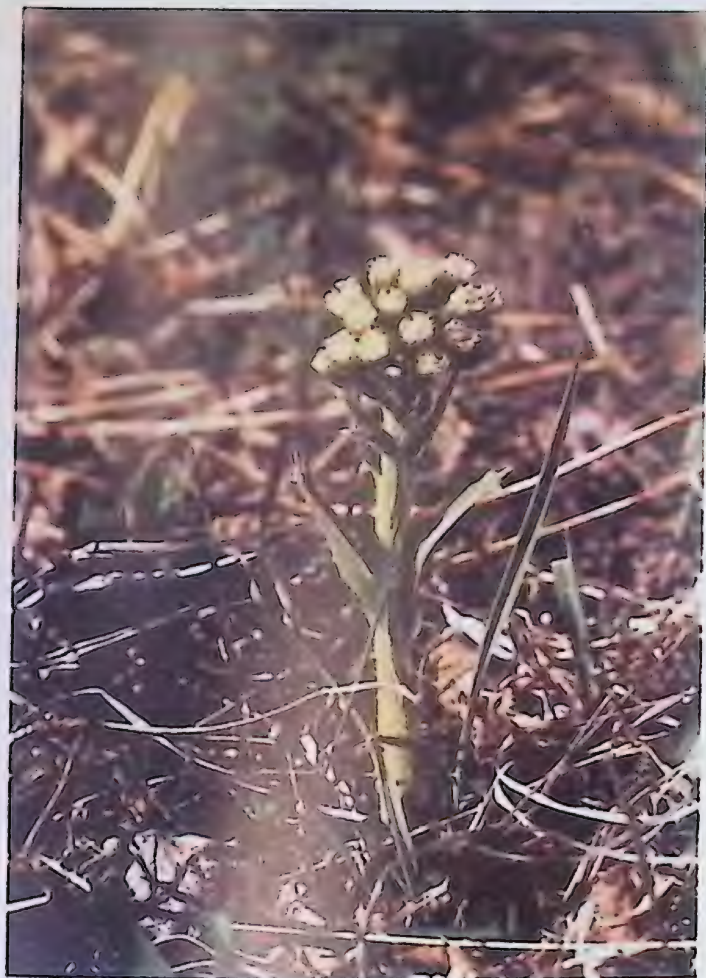


PUSSYTOES, EVERLASTING
(Composite Family)

Antennaria pulcherrima

This is a low herbaceous perennial with closely-appressed, whitish woolly hairs covering the stem and leaves so that the overall colour of the plant is pale gray or gray-green. At the base of the flowering stem there are clumps of narrowly spatulate, three-nerved leaves 1 - 4 inches (2 - 10 cm) long, growing on short branches of the tough, fibrous-coated rhizome. Smaller leaves are borne singly along the flowering stems, which may reach a height of 12 - 15 inches (3 - 4 dm). The tiny flowers are arranged in heads surrounded by dark-coloured bracts, the 4 - 10 heads forming a hemispherical cluster at the densely woody summit of the stem.

It is found in bloom throughout the season in the alpine and subalpine zones.



Flowers White

COLTSFOOT
(Composite Family)
Petasites
frigidus

The flowers of this plant appear early in the season, long before the leaves, at the branched summit of a thick, woolly-covered stem 1 - 2 feet (4.5 - 6 dm) tall which bears a series of large greenish pointed bracts with clasping bases. The flower heads consist of numerous tiny florets which, in seed, appear as tufts of whitish hairs emerging from a circle of bracts on long stalks. The leaves develop close to the ground, directly from the tip of the same fleshy underground rootstock which gave rise to the flowering stem. They are broadly triangular or rounded, about 4 inches (10 cm) across, usually deeply lobed with about seven toothed segments, dark green above and grayish to whitish beneath and borne on long petioles.

While the foliage and young flowering stems of Eurasian species are used as potherbs, little is known of the edible qualities of North American *Petasites*.

Coltsfoot grows in moist seepage slopes and along banks of streams and is common in the subalpine zone.

Flowers Greenish-white



DEVIL'S CLUB
(Ginseng Family)

Oplopanax horridum

A stout or straggling shrub up to 6 feet (2 metres) tall with rope-like stems about 1 inch (2.5 cm) thick, beset with formidable slender spines.

The large palmately lobed leaves, which may be as much as 20 inches (50 cm) across, are borne only at the ends of the branches. The underside of each leaf has stout prickles along the main veins and the leaf stalk is generously supplied with needle-sharp spines.

The numerous, small, greenish-white flowers appear in an elongate branched cluster and by August this has enlarged into a dense pyramidal mass of bright red, flattish berry-like fruits.

Devil's Club may grow as single plants or it may form impenetrable thickets, usually on damp slopes and in ravines, especially cedar bottomlands.

Contact with the shrub can produce painful wounds not soon forgotten.



Flowers Yellow

**YELLOW
AVALANCHE LILY,
GLACIER LILY**
(Lily Family)
*Erythronium
grandiflorum*

An early blooming lily, often pushing its way up through the edge of the melting snow. The Avalanche Lily is recognized by its two or three elongate smooth fleshy basal leaves, which taper at the base to long, winged petioles, and by its one to two (or more) nodding, yellow flowers borne on a recurving stem up to 12 inches (30 cm) tall. The six, taper-pointed perianth segments are recurved, exposing the six yellow stamens which surround the style.

It is in bloom, depending on elevation and seasonal conditions, from May throughout the spring and early summer, forming dense patches in the alpine meadows and in clearings of the sub-alpine zone.

The small deep-set bulbs were used as food by the Indians.

Flowers Yellow

**YELLOW
COLUMBINE**
(Buttercup Family)

*Aquilegia
flavescens*



The leaves of the Columbine are mostly basal, borne close to the ground in clusters at the tufted tips of the short, forking woody stems. The basal leaves are compound, long-stalked and divided into many round or fan-shaped leaflets. The characteristic columbine flower consists of five, wing-shaped yellowish sepals, often tinged with pink or red, alternating with five tubular petals, flaring at the open end like a cornucopia and tapered to a bulbous-tipped closed spur at the other end. The flowers, which are suspended daintily on slender curved stalks so that the blunt-tipped spurs are uppermost, are produced on leafy stems which usually surpass, in height, the graceful foliage. The seeds are borne in dry pods which are erect at maturity.

Commonly found on rock slides and talus slopes in the sub-alpine zone.



CINQUEFOIL, FIVE-FINGER
(Rose Family)

Potentilla villosa

The rootstock of this plant is tough and woody and the short upright forking stems are covered at the base with dark brown fibers. The leaves and upper part of the stems are clothed with long white hairs. The leaves are compound, divided into three leaflets with prominent rounded teeth, dark gray-green on the upper surface and grayish-white to silvery beneath, and resemble the foliage of the strawberry plant. The bright yellow flowers measure up to 1 inch (2.5 cm) in diameter and are borne in open, spreading clusters.

Found on rock slides and on dry talus slopes above timberline.

Flowers Yellow



ALPINE BUTTERCUP
(Buttercup Family)

Ranunculus eschscholtzii

This is a dwarf buttercup with bright yellow flowers, about 1 inch (2.5 cm) across, appearing close to the ground in spring or early summer before the stems have fully elongated. Later, the conical or cylindrical fruit clusters are held a foot (30 cm) or more above the ground on smooth stalks, well above the uppermost three to five-parted, smooth leaves. The slender basal leaves are deeply lobed with three to five fan-shaped segments.

It is found at high elevations near melting snow and along streams and ponds in alpine meadows and on mountain slopes.

Flowers Yellow



SIBBALDIA
(Rose Family)

Sibbaldia procumbens

A dwarf herbaceous perennial 2 - 8 inches (5 - 20 cm) high, with a tough, scaly, often much-branched woody base and tufts of trifoliate leaves on long stalks. Each leaflet is wedge-shaped and has three (or rarely more) prominent teeth at the blunt end. The flowers are borne on elongate stems rather densely branched near the summit forming somewhat crowded clusters. They are five-parted. The calyx and bracts are conspicuous but the short yellow petals are only visible from above and drop early.

Characteristically an alpine and subalpine species found on scree slopes, rocky ridges, open tundra or mossy banks.

Flowers Yellow



YELLOW MOUNTAIN AVENS
(Rose Family)

Dryas drummondii

The Avens has tough prostrate woody stems from which slender branches spread over the ground to form mats of leafy stems. The leaves are distinctive, being elliptic to oval, leathery, dark green above and silvery beneath by virtue of a close layer of grayish-white hairs. The margins are toothed and each leaf has a slender stalk at least as long as the blade. Flowers arise singly on an erect stalk 3 - 10 inches (7 - 25 cm) high and resemble creamy-white or pale yellow wild roses. The fruiting stalk elongates still more to support the head-like, hairy tuft of feathery-tailed seeds.

Found on rock slopes, gravel flats and dry gravel roadsides, mostly at lower elevations.



Flowers Yellow

YELLOW VIOLET
(Violet Family)

Viola
glabella

This violet blooms in early spring and has bright yellow flowers and a leafy flowering stem. There are several long-stalked basal leaves which arise from the underground fleshy rootstock. They are broadly rounded, or kidney-shaped, with a heart-shaped base. The flowering stems are 3 - 10 inches (7 - 25 cm) high with one or two branches and several slender-stalked, heart-shaped leaves with pointed tips and round-toothed margins. There are usually several flowers on each plant. Their bright yellow petals are streaked with dark purple-coloured lines at the base. The fruit is a capsule which splits wide open into three pointed segments.

In shady woods and on moist banks along streams and roadside ditches.

Flowers Yellow



YELLOW MOUNTAIN HEATHER
(Heather Family)

Phyllodoce glanduliflora

A low and much-branched dwarf shrub 5 - 15 inches (12 - 35 cm) high with evergreen needle-like leaves and terminal clusters of long-stalked pale yellowish to greenish-white nodding flowers. It is similar in habit to the Red Mountain Heather and often grows with it, at and above the timberline. It is easily distinguished, however, by its yellowish flowers (never pink or red) which, being constricted at the open end, are more vase-like. Also, the young branchlets, the flowers and the flower stalks, are covered with minute sticky hairs.

It grows in open alpine tundra, on rocky ridges, and in alpine and subalpine meadows.



Flowers Yellow

**MONKEY-
FLOWER**
(Snapdragon
Family)
*Mimulus
guttatus*

A weak-stemmed annual found along creeks or other wet places. The stem is somewhat angled in cross-section and the leaves, which are opposite in well-spaced pairs along the stem, are broadly-oval with a few prominent teeth on each margin forming a jagged outline. The upper leaves are sessile or even united across the stem, while the lower leaves have long stalks and may be lobed at the base of the blade. The flowers are 1 - 1½ inches (2 - 4 cm) long, pale yellow, trumpet-shaped and with brownish-red dots on the lower lip.

Found at lower elevations in moist situations such as roadside ditches, small streams and along trails in the woods.

Flowers Yellow
To Reddish

**WESTERN
LOUSEWORT**
(Snapdragon Family)

*Pedicularis
bracteosa*



The most distinctive features of the Western Lousewort are its stiffly-erect purplish stem, 1 - 3 feet (3 - 9 dm) high, its fern-like leaves and the thick terminal spike of arching tubular yellow and red flowers. The stem arises from a thick fibrous-coated perennial woody base. Almost all the lower half of the stem is devoid of leaves. Each leaf resembles a sharply-toothed fern frond. The compact flower cluster varies from 1 - 5 inches (2 - 13 cm) in length and, in fruit, forms an elongate cone-like mass of capsules.

It is found in moist soil along streams, on banks bordering trails and ditches, in open woods and in alpine meadows.



Flowers Yellow
(Or White)

**LEAFY
LOUSEWORT**
(Snapdragon
Family)
*Pedicularis
racemosa*

An herbaceous perennial producing a cluster of erect leafy flowering stems 8 - 20 inches (2 - 5 dm) high. The stems are purplish-red and the numerous alternate leaves are narrowly-elliptic to lanceolate with many fine teeth along the margins. The leaves become smaller towards the tip of the stem where they are bract-like and subtend the pale yellow to whitish, arching flowers.

Along trails in coniferous woods and on shaded slopes, usually in dry habitats.

Flowers Yellow



**BRACTED HONEYSUCKLE,
BLACK TWINBERRY**
(Honeysuckle Family)

Lonicera involucrata

A vigorous and bushy upright shrub growing to a height of 8 feet (2.5 metres) with large broadly elliptic pointed leaves borne in pairs along the four-angled or ridged stem. The flowers are yellow with short tubular corollas and arise from the leaf axils at the end of a long stout stalk. They are cupped at the base by two conspicuous pointed leafy bracts and four smaller rounded bractlets. After flowering, the bracts enlarge and turn from green to bright red purple, forming a colourful background for the twin, juicy jet black berries.

The juicy black berries are occasionally eaten by hunters and hikers and are considered quite palatable.

In damp ground on slopes of ravines and at the edges of woods. More abundant at lower elevations.

577- 539



NORTHERN GOLDENROD
(Composite Family)

Solidago multiradiata

This goldenrod has a tough woody rootstock and erect, or ascending leafy stems, $2\frac{1}{2}$ - 12 inches (6 - 30 cm) tall, bearing rather dense clumps of yellow flower heads. In exposed situations at elevations above 7000 feet (2100 m), it is usually a dwarf less than 5 inches (12 cm) high. The leaves occur in clumps at the base and also scattered along the stem. They are elongate, narrowly elliptic to spatulate, with the midrib deeply impressed. The tiny florets of each compact head have short golden-yellow rays.

Found in rock crevices and on open slopes especially in the alpine zones.

Flowers Yellow



**BROAD-LEAVED
ARNICA**
(Composite Family)
*Arnica
latifolia*

There are several Arnicas in the subalpine and alpine zones of the park. This one is quite common and can be recognized by its nearly smooth stems bearing two or three pairs of broadly-lanceolate to ovate, coarsely-toothed opposite leaves which are commonly sessile, and three, conspicuously long-peduncled heads $1\frac{1}{2}$ - $2\frac{1}{4}$ inches (3 - 6 cm) broad, with about seven or eight broad yellow rays. Solitary flower heads also occur. The flowering stems are 8 - 25 inches (20 - 60 dm) high. At the base of the plant is the woody perennial rootstock which produces short sterile branches bearing clusters of long-stalked coarsely-toothed heart-shaped leaves. Sometimes the stem leaves are long-stalked like the basal ones, especially the lowermost pair.

Abundant on damp open slopes and moist alpine meadows in summer and early fall.



Flowers Yellow

GIANT RAGWORT
(Composite
Family)
*Senecio
triangularis*

The Ragwort is 2 - 4 feet (6 - 12 dm) tall and leafy-stemmed, bearing a terminal cluster of stalked flower heads with deep yellow rays. The narrowly-triangular leaves, with jagged-toothed margins and sharp-pointed tapered tips are borne singly along the stem, the lower ones on long, slender stalks. The middle and upper leaves have increasingly shorter stalks and the uppermost ones are sessile. The stems are smooth and usually purplish at the base.

Common at higher elevations along the edges of streams and on wet slopes and alpine meadows.

Flowers Yellow

**ALPINE
HAWKWEED,
SLENDER
HAWKWEED**
(Composite Family)
*Hieracium
gracile*



The Hawkweed is a low herb with a cluster of leaves at ground level. The erect flowering stems bear only slender, dark-coloured bracts or occasionally a very narrow, reduced green leaf. The basal (rosette) leaves are long-stalked, with an elliptic or spatulate sparingly-toothed blade, the total length of stalk and blade being 1-4 inches (2 - 10 cm). The stems and the branches of the inflorescence are covered with blackish glandular hairs as are the slender pointed bracts which surround each head of flowers. The short rays of each flower head are pale yellow. The plants vary from 8 - 16 inches (2 - 4 dm) in height.

Abundant, often forming mats on slopes and meadows in subalpine and alpine regions.



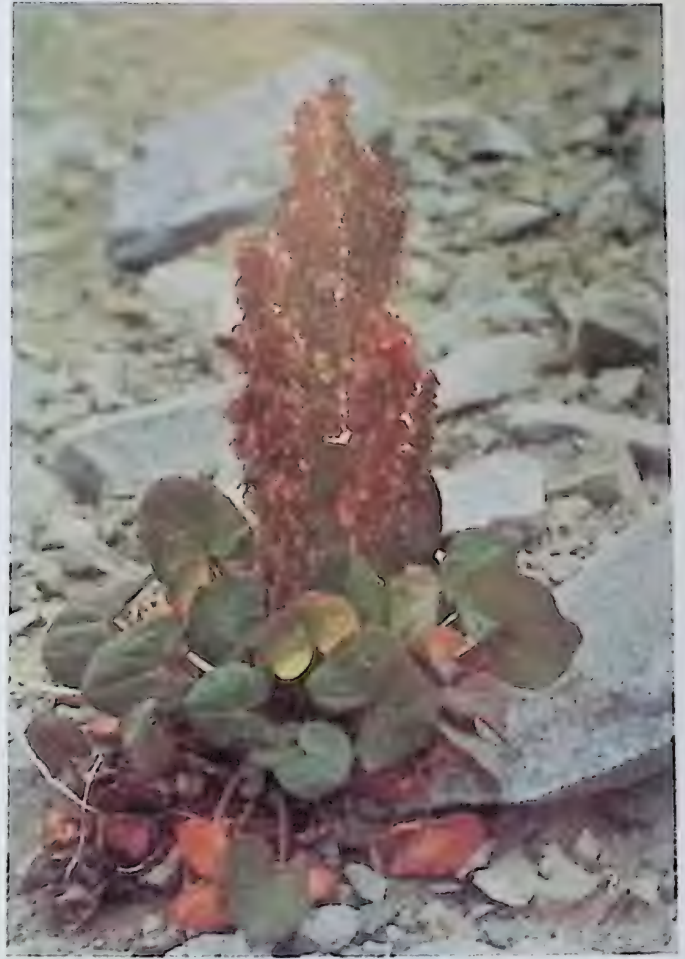
Flowers Greenish

**GREEN-FLOWER-
ED BOG ORCHID**
(Orchid Family)
Habenaria
hyperborea

A smooth-stemmed perennial herb up to 2 feet (6 dm) or more in height. The stem is thickish, soft, with clasping, elongate, narrow, fleshy leaves, those of the upper part of the stem reduced and merging into sharp-pointed bracts. The flowers, which may be few or numerous, are small and yellowish-green, borne in a loose or dense-flowered bracted spike.

In wet, open or shaded ground, grassy or mossy banks of streams at all elevations up to the subalpine. It is sometimes quite abundant locally but overlooked by the casual passerby because its overall greenish colour blends with the surrounding vegetation.

Flowers Greenish



**MOUNTAIN-
SORREL**
(Knotweed Family)

*Oxyria
digyna*

This plant forms dense rosettes with numerous long-stalked round or kidney-shaped fleshy leaves arising at ground level from the tips of short forking woody stems. The flowers, which are greenish and borne on upright sparsely-branched stems up to 12 inches (30 cm) high, are small, numerous and rather insignificant. They mature into prominently-winged red seed-clusters which shake in the wind like colourful papery disks. The leaves turn bright red or brown at the end of the growing season.

The Mountain-Sorrel is found on wet soil along streams, on seepage slopes and in moist rock crevices, usually near or above timberline.

The leaves are edible as a nibble or salad or may be cooked as a pot herb or soup (puree).



Flowers Greenish

**INDIAN or
FALSE HELLEBORE**
(Lily Family)

*Veratrum
viride*

A tall pyramidal-shaped leafy-stemmed herb up to 6 feet (2 metres) high with a series of large, coarse, parallel-veined leaves, each encircling the stem with its base. The upper part of the stem is a much-branched open inflorescence, its slender spikes bearing numerous six-parted star-shaped yellowish-green flowers. The terminal tassel-like spike is erect, the side branches arching or drooping.

The leaves and rootstock are poisonous, but veratrum has been widely used for medicinal purposes for more than 200 years and is the source of insecticide.

Found in moist valley bottoms, along stream beds, on seepage slopes and in moist alpine meadows where it stands out like a sentinel or forms conspicuous clumps of several stems.

Flowers Greenish



MITREWORT
(Saxifrage Family)

Mitella
breweri

Mitrewort has a rosette or cluster of broadly heart-shaped to kidney-shaped, long-stalked basal leaves with crinkly margins and one or two slender erect flowering stems which may reach a height of 16 inches (4 dm). There may be a very reduced leaf or merely one or two scale-like bracts on the stem below the tiny greenish flowers, the latter crowded, at first, but later more or less well-spaced along the upper part of the stem on very short slender stalks.

It occurs in damp soil of alpine meadows, on seepage slopes in the subalpine zone, and along mountain streams.

S77-792



Flowers Greenish-red

**HEART-LEAVED
TWAYBLADE**
(Orchid Family)

*Listera
cordata*

A delicate perennial orchid 4 - 10 inches (10 - 25 cm) high, bearing a pair of opposite rounded to heart-shaped sessile leaves at the middle of the stem and a terminal lax (or rarely crowded) cluster of tiny greenish-red to purplish-brown flowers. The withered flowers persist at the tips of the small inflated striped pods.

It grows in moist moss on the forest floor or in sphagnum of open bogs.

There is a brownish-red phase which is somewhat easier to find than the green phase, the latter blending with its background. This orchid may be quite abundant locally in suitable habitats but is often overlooked due to its small size.

Flowers Greenish-purple



WESTERN MEADOW RUE
(Buttercup Family)

Thalictrum occidentale

A graceful but somewhat inconspicuous herb with stems 1 - 3 feet (3 - 9 dm) tall, bearing large blue-green compound leaves divided, two or three times, into small round or fan-shaped stalked leaflets. The numerous insignificant green or purplish flowers form open terminal clusters. The flowers are of two kinds. The male are greenish-purple and the clusters of slender pendant stamens resemble tiny drooping tassels or epaulets. The female are greenish-white with five to fifteen tiny pistils, maturing into spiny clusters of small brownish slender-pointed dry fruits.

The Meadow Rue thrives on moist, or shaded grassy slopes, often along streams.



Flowers Orange

**FALSE OR
MOUNTAIN-
DANDELION**
(Composite
Family)

*Agoseris
aurantiaca*

Usually less than 1 foot (30 cm) high, or in exposed situations dwarfed to less than 4 inches (10 cm), this plant looks like an orange-flowered Dandelion. It has a small woody tap root which forks at ground level to produce two or more rosettes of leaves. The leaves are long and slender, entire or with widely spaced shallow teeth or lobes.

The flowering stem is mostly smooth except at its summit where it is covered with woolly hairs below the solitary head of strap-shaped orange florets. In the fruiting stage, the green to purple outer floral bracts surround the cluster of seeds from which projects a conspicuous tuft of long white hairs.

Found on scree slopes and at the base of cliffs above timberline.

Flowers Orange-
red



TIGER LILY
(Lily Family)

Lilium
columbianum

A strikingly beautiful lily up to 4 feet (1.2 metres) or more in height with most of its pointed elliptic leaves arranged in whorls of six to nine, well-spaced along the main part of the smooth round stem. The large, nodding bright reddish-orange flowers are borne singly on long curved stalks at or near the top of the stem, forming an open inflorescence. The six segments of each flower are recurved and conspicuously spotted with purplish to maroon dots. The six pendant stamens, with yellow or orange anthers, are clearly visible.

This lily is found in moist meadows and open woods at low elevations in early summer.

Flowers Red



**INDIAN
PAINTBRUSH,
PAINTED CUP**
(Snapdragon
Family)

*Castilleja
miniata*

Without doubt the most brilliant and conspicuous of all the wildflowers of the Park, the Painted Cup is often so abundant that its flowers give a red hue to the alpine meadows and to clearings at lower elevations. The stems are usually ridged and bear numerous linear to elliptic leaves with three prominent parallel veins. The flowers are tubular and slender, crowded and partially hidden in the terminal cluster of leafy bracts. These bracts are brightly coloured, some throughout but others only at their tips, giving the impression that the tip of the plant has been dipped in paint. The colour of the bracts and the flowers varies from scarlet to orange and occasionally to yellow or even white.

Flowers Red-
purple



**WESTERN
CORAL-ROOT**
(Orchid Family)

*Corallorhiza
mertensiana*

A distinctive orchid, lacking chlorophyll and well-developed leaves. The erect brownish-purple stems, 10 - 20 inches (25 - 50 cm) high, bear two or three tubular sheaths and terminate in a raceme of reddish-purple flowers. This orchid is essentially saprophytic, living on decaying organic matter in the humus. In place of true roots it has an underground system which consists of a much-branched, fleshy (coral-like) rhizome living in equilibrium with certain soil-inhabiting fungi—a mycorrhizal relationship.

The generic name *Corallorhiza* comes from Greek words which refer to the coral-like form of the underground parts.

Flowers Red to Brown



WILD GINGER
(Dutchman's Pipe Family)

Asarum caudatum

Wild Ginger is easy to recognize by its rounded heart-shaped leaves, dark green above and paler beneath, borne in pairs at the tip of a rope-like creeping stem and its unique, three-parted red-brown fleshy flower, each perianth segment prolonged into a long-tailed curling tip. The leaves are 4 - 6 inches (10 - 15 cm) across, usually wider than long.

The whole plant, but particularly the rootstock, has a strong aroma and taste similar to the ginger of commerce. The rootstock of the species *A. canadense* was once used as a remedy for whooping-cough and as a substitute for ginger.

It is primarily a woodland herb seen on slopes and in damp shaded soil along trails at lower elevations.

Flowers Pink
(To Red)

**MOUNTAIN
SPIRAEA**
(Rose Family)

*Spiraea
densiflora*



A low shrub, rarely more than 3 feet (9 dm) high, attractive when in bloom by virtue of the pink to deep rose-coloured clusters of flowers at the ends of its rather numerous side branches. The rounded or flat-topped flower clusters are 1 - 2 inches (2 - 5 cm) in diameter. After flowering the flower clusters change into clusters of brownish, shiny, pointed pods.

The branches have ten to twenty oval leaves which are 1 - 1½ inches (2 - 4 cm) long and the leaf margins have blunt teeth except near the base of the leaf. The outer bark of the wood peels off as a thin brown papery layer.

Found on high mountain slopes in wet meadows and other damp places at the edge of the forest and along the summit road below timberline. Not known in British Columbia north of Mt. Revelstoke and Glacier National Parks.

570-837



MOSS-CAMPION, MOSS-PINK
(Carnation Family)

Silene acaulis

A prostrate perennial, densely tufted and much-branched, somewhat woody below, which forms a bright green moss-like cushion 1 - 4 inches (2 - 10 cm) high. The sharp-pointed leaves resemble conifer needles. From the surface of this rounded cushion, anchored by a deep woody tap root, many individual pale pink to lavender, five-lobed tubular flowers project in summer.

Characteristic of moist stony ground, rock crevices and scree slopes in the alpine zone.

Flowers Pink (or Rose-red)



WOOD ROSE
(Rose Family)

Rosa gymnocarpa

A small shrub 3 - 6 feet (1 - 2 metres) tall with rather slender branches beset with fine prickles. The pinnately-compound leaves have five to nine leaflets which are much less than 1 inch (2.5 cm) long, oval and finely sharp-toothed with minute glands around the margin. The flowers are mostly solitary, pink to deep rose, up to 1 inch (2.5 cm) in diameter. The fruit is ovoid and not accompanied by the calyx lobes, which fall early. The mature rose hip is scarlet after passing through an orange-red state and, when ripe, makes an excellent jelly or marmalade.

On rock slides and shaded banks along trails in the montane zone.



Flowers Pink

**CROWBERRY,
CURLEWBERRY**
(Crowberry
Family)

*Empetrum
nigrum*

In habit, Crowberry resembles heather with its low spreading, much-branched matted stems and short thick needle-like ever-green leaves crowded along the branches. It is usually less than 10 inches (25 cm) high and its tiny pink to purplish flowers are seldom noticed by the passerby. Its purplish-black to jet black berries attract the birds in late summer and fall.

It is found in crevices, on open rocky summits and also in sphagnum bogs. The juicy berries have a mildly medicinal flavour when eaten raw, a flavour somewhat improved by freezing.

Flowers Pink
(Magenta)



**ALPINE
WILLOW-HERB**
(Evening Primrose
Family)

*Epilobium
alpinum*

A diminutive relative of the common Fireweed, this species flowers at a height of 2 - 3 inches (5 - 7 cm) but sometimes reaches a height of 8 - 10 inches (20 - 25 cm) in the fruiting stage. The slender stem is often bent or curved, rather than stiffly erect, and bears two to five pairs of oval sessile or short-stalked leaves less than 1 inch (2.5 cm) long. The flowers are solitary and terminal or several arising from the axils of the upper reduced leaves. Each flower has a slender basal tube and a flaring four-parted pink, magenta, or purple corolla. The fruit is an elongate purplish capsule, thinner than a matchstick, which splits lengthwise into four sections, when ripe.

Typical habitat is damp moss mats along brooks and edges of sedge meadows in the alpine and subalpine zones, mostly above 5000 feet (1500 m).



Flowers Pink to
Purple (Magenta)

**FIREWEED, GIANT
WILLOW-HERB**
(Evening Primrose
Family)

*Epilobium
angustifolium*

Fireweed is a common plant of roadsides, clearings and other open areas, well-known for its steeple-like clusters of magenta flowers which top the tall, 6 feet (2 metres) or more, leafy stems.

It is a perennial herb which proliferates from underground rootstocks. The leaves are long, tapered and willow-like. The flowers, which have a slender basal closed portion ending in the flaring four-parted corolla, open in succession from the base of the spike to the top so that the period of bloom may extend almost throughout the growing season. Later, as the leaves turn a brilliant red, the slender capsules split to release the tiny, hairy-tufted seeds which are readily dispersed by wind.

The young leaves may be eaten as salad greens. The stalk, when split open, exudes a sweet glutinous substance said to be quite palatable. The dried leaves may be used to make a beverage.

Found on dry banks, slopes, roadsides and in clearings, especially at lower elevations.

Flowers Pink to Purple (Magenta)



ALPINE FIREWEED
(Evening Primrose Family)

Epilobium latifolium

This showy Fireweed is similar to the common and much taller species, differing not only in its lower stature, but in its shorter and more elliptic fleshy leaves and the usually less abundant but larger, more brilliant, purplish flowers borne at the summit of the stem. The stems are 6 - 18 inches (15 - 45 cm) high and the leaves are pale gray-green, often with tufts of smaller leaves or short branches in their axils.

Its favourite habitats are the gravelly banks or flats of streams and talus slopes in the alpine and subalpine zones.

The new shoots and young fleshy leaves of this perennial herb may be used as a pot herb or as emergency food.

537-259

Flowers Pink



**WESTERN
PRINCE'S PINE**
(Heather Family)

*Chimaphila
umbellata*

A low evergreen plant with a slightly woody, creeping rootstock and upright, leafy flowering stems 8 - 15 inches (15 - 35 cm) tall. The somewhat leathery and glossy leaves are 1 - 2½ inches (2.5 - 6 cm) long, oblong to obovate, usually sharply-toothed near the tip and borne in whorls along the stem. The three to ten, pinkish five-parted flowers usually droop gracefully on arching stalks in a branched cluster at the end of the stem. The flowers are fragrant.

Found in coniferous woods, mostly at lower elevations.

Flowers Pink

**LARGE
WINTERGREEN**
(Heather Family)

*Pyrola
asarifolia*



A rosette-forming plant with basal leaves and an erect flowering stem up to 12 inches (30 cm) tall. The leaves are long-stalked, the leathery blade elliptic to ovate or circular in outline and glossy dark green above, paler or reddish beneath with sparingly-toothed margins. The flowering stem has several small pointed bracts and a series of up to twenty pink to purplish-red cup-shaped fragrant flowers borne on short stalks. The style of each flower projects downward as a curved hook.

On mossy hummocks and slopes in coniferous forests.



Flowers Pink

SWAMP LAUREL
(Heather Family)

Kalmia
polifolia

A low, sparsely-branched evergreen shrub usually less than 2 feet (6 dm) high, often forming extensive mats as new roots develop from the depressed branches. The branchlets are flattened, somewhat two-edged, and each segment between the joints (nodes) is flattened at right angles to the adjacent segment. The leaves are opposite, narrowly oblong with inrolled margins, dark green above and whitened beneath. The pink to rose-coloured saucer-shaped flowers are borne in terminal clusters. There are 10 stamens in a flower and their anthers are held in separate pouches of the corolla.

The species is known to be toxic, particularly to livestock. In damp soil and peat bogs.

Flowers Pink



RED MOUNTAIN HEATHER
(Heather Family)

Phyllodoce empetrifomis

A low, much-branched shrub usually less than 15 inches (40 cm) in height, forming matted masses or miniature thickets. The linear evergreen leaves are about 1/2 - 3/4 inch (12 - 18 mm) long and resemble blunt conifer needles crowded towards the ends of the branches. The flowers are borne on slender stalks in clusters at the tips of the branches. Each flower is a small rose-pink bell just over 1/4 inch (6 mm) long.

Found in alpine and subalpine meadows often near stands of alpine fir at the timberline.

Flowers Pink



BEARBERRY, KINNIKINNICK
(Heather Family)

Arctostaphylos uva-ursi

A low, trailing or mat-forming evergreen shrub with thick leathery oval leaves tapered to a short stalk. The small, pinkish, urn-shaped flowers are borne in clusters at the ends of the ascending branchlets. The fruit is an orange-red mealy berry $\frac{1}{4}$ - $\frac{3}{8}$ inch (6 - 10mm) in diameter, which is dry and rather tasteless when raw but more palatable when cooked. They may be mixed with other berries to make a pie.

The powdered dry leaves are used occasionally by natives as the substitute for tobacco or mixed with it.

Dry sandy and rocky areas, open woods and exposed sites; less common at higher elevations.

Flowers Pinkish (Or White)



**BLACK MOUNTAIN HUCKLEBERRY,
MOUNTAIN BILBERRY**
(Heather Family)

Vaccinium membranaceum

At and near the timberline, Mountain Bilberry is a rather low and densely branched shrub, but in the shady coniferous woods or moist habitats of the montane zone it is more openly branched and grows up to 6 feet (2 metres) high. The young branchlets are yellowish-green and somewhat angled. The bark becomes grayish and shreddy on the older branches. The leaves are elliptic, pointed, up to $2\frac{1}{4}$ inches (6 cm) long, minutely-toothed and sessile or very short-stalked. The flowers are white to creamy pink, about $\frac{1}{4}$ inch (6 mm) long, on short, curving stalks. The fruit is a broadly-rounded, glossy, dark purple berry, edible and sweet.

On open slopes at all elevations up to the timberline.
The foliage turns a brilliant red in the fall.

17-797



Flowers Pink Or
Magenta

**MONKEY-
FLOWER**
(Snapdragon
Family)
*Mimulus
lewisii*

Whereas other species of Monkey-flower in the area are yellow-flowered, this one has pink to magenta flowers. It is a herbaceous perennial forming clumps of erect or ascending stems bearing broadly-ovate and minutely-toothed sessile opposite leaves. The stems are usually sticky due to a coating of short viscid hairs. The flowers are produced on long stalks from the axils of the upper leaves. Sometimes many secondary flowering branches develop near the top of the stem. The pink corolla, which is tubular with a flaring two-lipped outer end, 1 - 1¼ inches (2 - 4 cm) long and projects from a conspicuous and persistent five-angled vase-shaped calyx which holds the maturing many-seeded pod.

Found in the damp soil of subalpine meadows and along streams, often covering banks and slopes with its profusely blooming clumps.

Flowers Pink



TWINFLOWER
(Honeysuckle Family)

Linnaea borealis

A prostrate trailing vine with slender, wiry woody stems and short erect leafy flowering branches 2 - 4 inches (5 - 10 cm) high. The leaves are opposite, oval to rounded with a few blunt teeth beyond the middle on each side. The flowers are normally borne in pairs, two small delicate pinkish fragrant bells, hanging like tiny lamp shades from the Y-shaped tip of an erect, slender stalk.

In semi-shaded or open conifer woods, this vine often carpets the floor or drapes itself over stumps and fallen tree trunks.



ROCK CRESS
(Mustard Family)

Arabis lyallii

A rosette plant, 2 - 8 inches (5 - 20 cm) high at flowering time but elongating in fruit up to 15 inches (38 cm). The basal leaves form rosettes or irregular clumps at ground level at the tips of the forking woody caudex which has a deep tap root. The leaves are spatulate to elliptic, usually less than 1 inch (2.5 cm) long; those at the base have a distinct petiole. The several stem leaves are clasping, with a small pointed lobe on each side.

The flowers are small, about $\frac{3}{8}$ inch (10 mm) long, with four purple or white petals. They are borne on short stalks in a tight cluster at the tip of the stem. Later, this part of the stem continues to grow as the long narrow pods mature.

Its habitats are rocky meadows, rock slides and ledges at the base of cliffs in the alpine zone.

Flowers Purple
(Magenta)



**PURPLE-FLOWERED
BEARD-TONGUE**

(Snapdragon
Family)

Penstemon
fruticosus
var. scouleri

One of several different kinds of Beard-tongue, this species is a hardy perennial with much-branched woody stems at the base and numerous leafy flowering branches which form dense clumps close to the ground. It is usually less than 1 foot (3 dm) in height. The leaves are opposite and narrow, tapered at both ends with minute, and widely-spaced, divergent teeth. The flowers are 1 - 1½ inches (2 - 4 cm) long with a conspicuous tubular or trumpet-shaped corolla, two-lipped at the free end. They vary in colour from pink to magenta to purple. After the tubular corolla falls, the slender style persists like a prominent stout thread projecting from the cluster of taper-pointed calyx lobes until the pointed ovoid brown capsule begins to mature.

This species grows in sandy and rocky soil, particularly in crevices, on ledges of cliffs and on talus slopes. It is very floriferous, the flowers often covering the whole mound of leafy stems, obscuring them on first sight.



Flowers Purple
(Blue-purple)

BEARD-TONGUE
(Snapdragon
Family)
Penstemon
serrulatus

This Beard-tongue has the typical trumpet-shaped flowers of its group. They are a deep blue-purple colour. It differs from the other species growing in the park, by its much broader ovate leaves which are not tapered at the base. The style, which is exposed when the corolla falls, is thread-like or hair-like and the flowers and small capsules are borne in head-like clusters at the tip of the erect leafy stem.

It is found in sandy and gravelly soil on rock slides, cliff faces and along trails on steep rocky slopes in the montane and subalpine zones.

Flowers Purple



SHOWY PURPLE ASTER
(Composite Family)

Aster engelmannii

There are several purple or lilac-coloured asters in the park. This one is 2 - 3½ feet (6 - 10 dm) tall, with numerous oval sharp-pointed leaves scattered along the stem and many purple-rayed flower heads forming an open cluster at the top. The leaves are 1½ - 3½ inches (3 - 9 cm) long with entire, to somewhat-toothed, margins, usually reduced or represented by withering purplish-brown scales on the lowest third of the stem. The purplish to lavender rays are about 1/2 inch (12 - 13 mm) long and give the flower head a wheel-like appearance when viewed from above.

This is essentially a woodland species found in open woods and along the trails and roadsides at lower elevations from mid-summer into the fall.

377-116

Flowers Purple



**MOUNTAIN-
DAISY,
MOUNTAIN-
ERIGERON**

(Composite
Family)

*Erigeron
peregrinus
ssp. callianthemus*

One of the showiest of the mountain wildflowers, this species has a flower head which resembles a daisy with its yellowish central disk but the surrounding circle of rays is purple or magenta instead of white. Thus it is often mistaken for an aster. The plant has a short, thick rootstock, a cluster of long-stalked narrow leaves at the base and broader oval to elliptic leaves on the stem with sessile or clasping rounded bases. The tip of the stem is somewhat thickened below the usually-solitary flower head. A second smaller head may develop from the axil of one of the upper leaves.

It often covers extensive areas of damp subalpine and alpine meadows, giving a purple to magenta hue to the landscape; less common at lower elevations in open woodlands.

Flowers Blue



LUPINE
(Pea Family)

Lupinus arcticus ssp. subalpinus

To those familiar with the lupines grown in gardens, the wild lupine with its spike of deep blue flowers, each tipped with white, and the long-stalked leaves with six to nine finger-like leaflets is easy to recognize.

Each year, from the woody crown of this root, a clump of basal leaves and several leafy flowering stems, which reach a height of 2 feet (6 dm), are produced. The leaf stalks are longer than the leaflets. The flowering spike is made up of numerous flowers borne on slender stalks in widely-spaced whorls along the flowering axis.

Common on alpine and subalpine meadows and open slopes, especially near the summit of Mt. Revelstoke.



ALPINE VERONICA
(Snapdragon Family)

Veronica wormskjoldii

The Alpine Veronica is a small herbaceous perennial with erect or ascending slender stems bearing elliptic to ovate sessile opposite leaves and tiny blue flowers at their tips. The stems arise from a slender cord-like rootstock and are usually about 3 - 8 inches (7 - 20 cm) high with the successive pairs of leaves mostly well-spaced along the stem. Some specimens may reach a height of 12 inches (30 cm).

The flowers are less than 1/4 inch (6 - 7 mm) across and are borne on short stalks in the axils of reduced upper leaves. The fruit resembles a tiny oval or heart-shaped locket.

This is a characteristic plant of wet meadows, seepage slopes, stream banks and moss-covered stones in rivulets and is commonest in the subalpine and alpine zones.

Flowers Blue



BLUEBELL
(Bluebell Family)

Campanula
rotundifolia

As the common name indicates, the flower of this plant is shaped like a bell and is blue. The stems, which are 5 - 15 inches (12 - 40 cm) high, grow singly or in clumps. They have a few long-stalked basal leaves with round blades but the more obvious leaves scattered along the stem are long and narrow, tapered at both ends. The handsome blue, bell-shaped corolla is about one inch (2.5 cm) long.

The Bluebell grows in dry soil, on rocky slopes, along roadsides and in subalpine meadows. It blooms throughout the summer season.

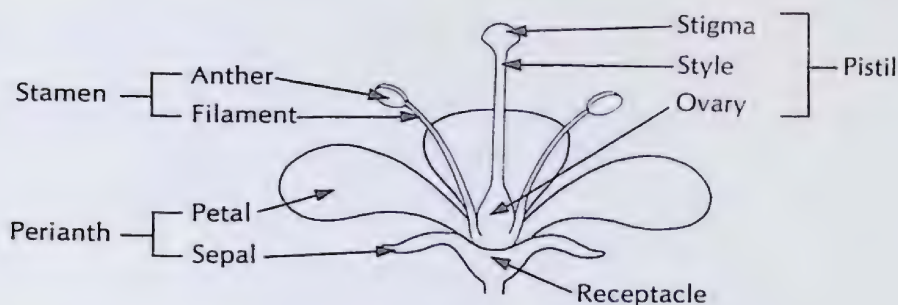
GLOSSARY

alpine	—	occurring at high elevations, usually above the treeline.
alternate	—	borne singly at successive nodes.
anther	—	the part of a stamen containing the pollen.
axil	—	the angle formed by a leaf or branch with the stem.
axis	—	the central line of any organ or support of a group of organs; a stem, etc.
blade	—	the expanded, usually flat, portion of a leaf.
bract	—	a reduced or modified leaf subtending a flower or belonging to an inflorescence or flower stalk.
bulb	—	a short underground stem surrounded by fleshy leaves or scales.
calyx	—	the outer of two series of floral leaves.
capsule	—	a dry dehiscent fruit composed of more than one carpel.
carpel	—	a single pistil; one unit of a compound pistil.
caudex	—	the persistent base of an otherwise annual stem; the lower part of the axis of a plant.
cauline	—	belonging to the stem.
cm (centimetre)	—	a unit of length equal to 0.393 inch. (2.54 cm equal 1 inch; 1 cm equals 10 millimetres; 100 cm equal 1 metre).
compound	—	composed of two or more parts or divisions.
corm	—	the enlarged fleshy base of a stem, bulb-like but solid, often surrounded by papery scales.
corolla	—	the inner of two series of floral leaves; petals considered collectively.
dehiscent	—	splitting open at maturity by means of slits or valves.
dm (decimetre)	—	a unit of length equal to 10 centimetres.
drupe	—	fleshy one-seeded indehiscent fruit with the seed enclosed in a strong pit or stone.
drupelet	—	one small drupe in a fruit made up of an aggregate of drupes, as in the raspberry.
elliptic	—	oval in outline, narrowed to the rounded ends and widest at or about the middle.
fimbriate	—	fringed.
floret	—	a small flower, usually one of a dense cluster, e.g. in the head of a composite inflorescence.

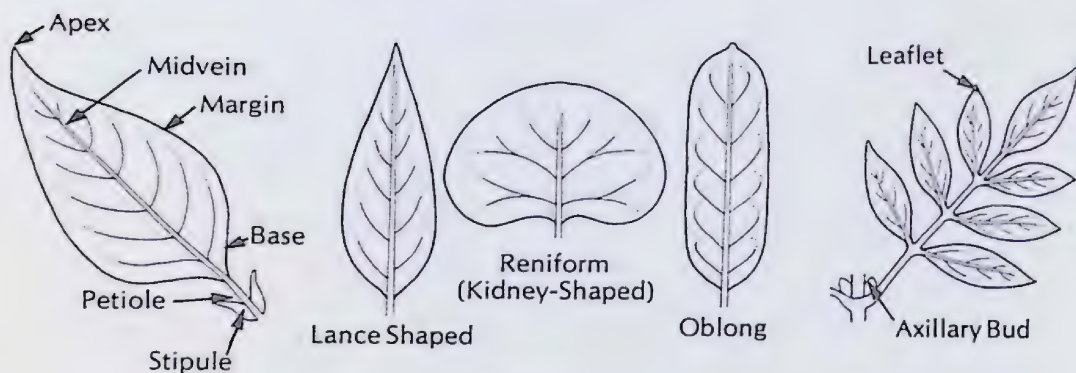
gland	— a secreting surface or structure, often a hair-shaped appendage with a swollen tip like a pin-head.
glandular	— with glands.
head	— a dense cluster of sessile or nearby sessile flowers (or fruits) on a very short axis or receptacle.
herb	— a plant with no persistent woody stem above ground.
herbaceous	— with characters of an herb.
hip	— the fruit of the rose.
inflorescence	— the flowering parts of plants; its mode of arrangement.
lanceolate	— considerably longer than broad, tapering upwards from the middle or below; lance-shape.
leaflet	— one part of a compound leaf; a portion of the leaf blade.
lenticel	— a small corky spot, dot or line on the bark of young twigs in many shrubs and trees.
linear	— long and narrow, with parallel sides.
montane	— occurring on or pertaining to mountains.
mycorrhiza	— the association of fungi with the roots of plants; the fungi may cover or penetrate the rootlets.
node	— the place upon a stem which normally bears a leaf, a pair of opposite leaves, or a whorl of leaves.
offset	— a short prostrate shoot, primarily propagative in function, arising near the base of a plant, usually bearing a rosette or plantlet at its tip.
opposite	— occurring in two's, one on each side of the axis at a node.
ovary	— the part of the pistil that contains the ovules (young seeds).
palmate	— resembling a hand with the fingers spread; having lobes radiating from a common point.
pedicel	— the support of a single flower.
peduncle	— the primary flower stalk, supporting either a cluster or a solitary flower.
perennial	— lasting from year to year; includes trees, shrubs, and other plants with persistent underground parts such as bulbs, corms, tubers and rhizomes.

perianth	— the floral envelope, consisting of the calyx (sepals) and corolla (petals), whatever their form.
petal	— one of the divisions of the corolla.
petiole	— the leaf-stalk.
petiolule	— the stalk of a leaflet.
pinnate	— feather-like as with the leaflets of a compound leaf developed on both sides of the rachis.
pistil	— the central organ of a flower containing the ovules which become the seeds.
raceme	— an elongated indeterminate inflorescence with each flower on a stalk.
rachis	— an axis bearing flowers or leaflets.
reniform	— kidney-shaped.
rhizome	— underground stem; root-stock; distinguished from a root by the presence of nodes, buds, or scale-like leaves.
rootstock	— the same as rhizome.
rosette	— a cluster of leaves, usually at the base of a plant or at the tip of an offset.
saprophyte	— a plant (usually lacking chlorophyll) living on dead organic matter.
sepal	— one of the modified leaves of a calyx.
sessile	— not stalked; sitting.
sheath	— a tubular envelope, as the lower part of the leaf when it clasps or surrounds the stem.
shrub	— a woody perennial, smaller than a tree and usually with several stems or branches arising at or near ground level.
spatulate	— shaped like a spatula; spoon-shaped.
spike	— an elongate flower-cluster, with sessile or nearly sessile flowers.
stamen	— one of the pollen-bearing organs of the flower.
stigma	— the part of the pistil that receives the pollen.
stolon	— a runner, or any basal branch that is inclined to root.
style	— the narrowed portion of the pistil that connects the ovary and the stigma.
subalpine	— occurring below the alpine region, usually at or near the treeline.
tuber	— a thickened and short underground stem or branch bearing numerous buds.

- tundra — a treeless type of vegetation in arctic or high-alpine regions.
- valve — one of the pieces into which a capsule splits.
- whorl — a group of three or more similar organs radiating from a node.



FLOWER STRUCTURE

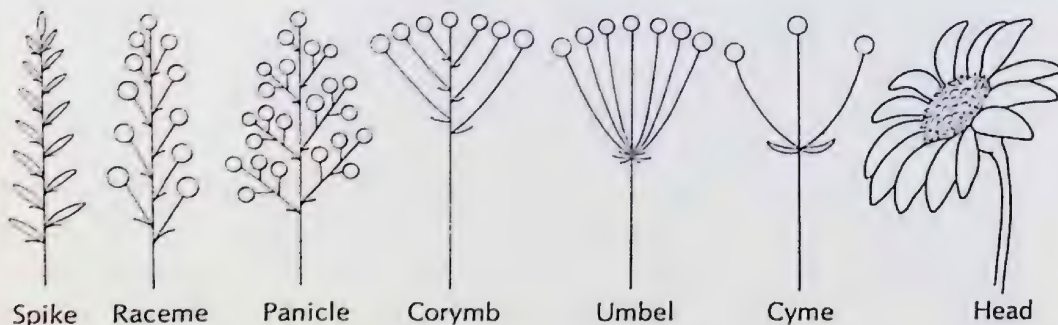


LEAF STRUCTURE

Simple Leaves

Compound Leaf

TYPICAL LEAF FORMS



FORMS OF INFLORESCENCES

SELECTED LITERATURE

BAIRD, D.M.

1971. Glacier and Mount Revelstoke National Parks: where rivers are born. Geol. Surv. Can., Misc. Rept. No. 11 104 p.

BANDONI, R.J. & A.F. SZCZAWINSKI.

1971. Guide to Common Mushrooms of British Columbia. B.C. Prov. Mus., Handbook No. 24.

BUTTERS, F.K.

1914. The Vegetation of the Selkirk Mountains. Appendix A in A. Palmer, Mountaineering and Exploration in the Selkirks. (p. 352-362) Putnams, New York.

EASTHAM, J.E.

1947. Supplement to the Flora of Southern British Columbia, by J.K. Henry. Spec. Publ. 1. B.C. Prov. Mus., Victoria.

GARMAN, E.H.

1974. Guide to Trees and Shrubs of British Columbia. B.C. Prov. Mus., Handbook No. 31.

HENRY, J.K.

1915. Flora of Southern British Columbia and Vancouver Island. Gage & Co., Toronto.

HITCHCOCK, C.L. & A. CRONQUIST.

1973. Flora of the Pacific Northwest. Univ. of Wash. Press, Seattle, Wash.

HUBBARD, W.A.

1969. The Grasses of British Columbia. B.C. Prov. Mus., Handbook No. 9.

LYONS, C.P.

1965. Trees, Shrubs and Flowers to Know in British Columbia. (Revised edition) Evergreen Press Ltd., Vancouver.

PORSILD, A.E.

1974. Rocky Mountain Wild Flowers. Nat. Mus. Can., Natural Hist. Ser., No. 2. 454 p. Ottawa.

SCHOFIELD, W.B.

1969. Some Mosses of British Columbia. B.C. Prov. Mus., Handbook No. 28.

SZCZAWINSKI, A.F.

1970. The Orchids of British Columbia. B.C. Prov. Mus., Handbook No. 16.

1962. The Heather Family (ERICACEAE) of British Columbia. B.C. Prov. Mus., Handbook No. 19.

SZCZAWINSKI, A.F. & G.A. HARDY.

1962. Guide to Common Edible Plants of British Columbia. B.C. Prov. Mus., Handbook No. 20.

TAYLOR, T.M.C.

1956. The Ferns and Fern-allies of British Columbia. B.C. Prov. Mus., Handbook No. 12.

1966. The Lily Family of British Columbia. B.C. Prov. Mus., Handbook No. 25.

1973. The Rose Family of British Columbia. B.C. Prov. Mus., Handbook No. 30.

1974. The Pea Family of British Columbia. B.C. Prov. Mus., Handbook No. 32.

1974. The Figwort Family of British Columbia. B.C. Prov. Mus., Handbook No. 33.

INDEX TO COMMON AND SCIENTIFIC NAMES

• <i>Actaea rubra</i>	12	<i>Epilobium alpinum</i>	70
• <i>Agoseris aurantiaca</i>	61	<i>Epilobium angustifolium</i>	71
• <i>Amelanchier alnifolia</i>	1	<i>Epilobium latifolium</i>	72
• <i>Anemone</i> , Western	13	<i>Erigeron peregrinus</i>	
• <i>Anemone occidentalis</i>	13	(ssp. <i>callianthemus</i>)	85
• <i>Antennaria pulcherrima</i>	36	<i>Eriophorum angustifolium</i>	35
• <i>Aquilegia flavescens</i>	40	<i>Eriophorum chamissonis</i>	35
• <i>Arabis lyallii</i>	81	<i>Erythronium grandiflorum</i>	39
<i>Arctostaphylos uva-ursi</i>	77	Everlasting	36
<i>Arenaria capillaris</i>	9	Fireweed	71
<i>Arnica</i> , Broad-leaved	52	Fireweed, Alpine	72
<i>Arnica latifolia</i>	52	Five-finger	41
<i>Aruncus sylvester</i>	21	Foam-flower	18
<i>Asarum caudatum</i>	65	<i>Gaultheria ovatifolia</i>	32
Aster, Showy Purple	84	Ghost Flower	29
<i>Aster engelmannii</i>	84	Ginger, Wild	65
Avalanche Lily, Yellow	39	Glacier Lily	39
Avens, Yellow Mountain	44	Globe Flower	11
Baneberry	12	Goat's-beard	21
Bearberry	77	Goldenrod, Northern	51
Beard-tongue	83	<i>Goodyera oblongifolia</i>	8
Beard-tongue, Purple-flowered	82	Grass-of-Parnassus, Fringed	19
Bilberry, Mountain	78	<i>Habenaria hyperborea</i>	55
Bitter Cherry	2	Hawkweed, Alpine	54
Bluebell	88	Hawkweed, Slender	54
Bog Orchid, Green-flowered	55	Heather, Mountain	31
Bunchberry	26	Heather, Red Mountain	76
Buttercup, Alpine	42	Heather, Western Moss	31
<i>Caltha leptosepala</i>	10	Heather, Yellow Mountain	46
<i>Campanula rotundifolia</i>	88	Heliotrope, Wild	34
<i>Cassiope mertensiana</i>	31	Hellebore, False	57
<i>Castilleja miniata</i>	63	Hellebore, Indian	57
Cherry, Bitter	2	<i>Heracleum lanatum</i>	25
<i>Chimaphila umbellata</i>	73	<i>Hieracium gracile</i>	54
Cinquefoil	41	<i>Holodiscus discolor</i>	22
Clintonia, One-flowered	5	Honeysuckle, Bracted	50
<i>Clintonia uniflora</i>	5	Huckleberry, Black Mountain	78
Coltsfoot	37	Indian Pipe	29
Columbine, Yellow	40	Juneberry	1
<i>Corallorhiza mertensiana</i>	64	<i>Kalmia polifolia</i>	75
Coral-root, Western	64	Kinnikinnick	77
<i>Cornus canadensis</i>	26	Ladies' Tresses	7
Cotton-Grass	35	Laurel, Swamp	75
Cow-Parsnip	25	<i>Leptarrhena pyrolifolia</i>	14
Cress, Rock	81	<i>Lilium columbianum</i>	62
Crowberry	69	Lily, Tiger	62
Curlewberry	69	Lily, Yellow Avalanche	39
Dandelion, False	61	<i>Linnaea borealis</i>	80
Devil's Club	38	<i>Listera cordata</i>	59
<i>Dryas drummondii</i>	44	<i>Lonicera involucrata</i>	50
<i>Empetrum nigrum</i>	69	Lousewort, Leafy	49

Lousewort, Western	48	Rhododendron, White-flowered	30
<i>Luetkea pectinata</i>	20	Rock Cress	81
Lupine	86	<i>Rosa gymnocarpa</i>	68
<i>Lupinus arcticus</i>		Rose, Wood	68
(ssp. <i>subalpinus</i>)	86	<i>Rubus parviflorus</i>	3
Marsh Marigold, Mountain	10	<i>Rubus pedatus</i>	23
Meadow Rue, Western	60	Sandwort, Mountain	9
<i>Mimulus guttatus</i>	47	<i>Saxifraga bronchialis</i>	15
<i>Mimulus lewisii</i>	79	<i>Saxifraga ferruginea</i>	16
<i>Mitella breweri</i>	58	<i>Saxifraga lyallii</i>	17
Mitrewort	58	Saxifrage, Leather-leaved	14
Mitrewort, False	18	Saxifrage, Red-stemmed	17
<i>Moneses uniflora</i>	28	Saxifrage, Rusty	16
Monkey-flower	47, 79	Saxifrage, Spotted	15
<i>Monotropa uniflora</i>	29	<i>Senecio triangularis</i>	55
Moss-Campion	67	Sibbaldia	43
Moss-pink	67	<i>Sibbaldia procumbens</i>	43
Mountain Ash, Sitka	4	<i>Silene acaulis</i>	67
Mountain Avens, Yellow	44	<i>Smilacina racemosa</i>	6
Mountain-Daisy	85	<i>Solidago multiradiata</i>	51
Mountain-Dandelion	61	<i>Sorbus sitchensis</i>	4
Mountain-Erigeron	85	Spikenard, False	6
Mountain-Sorrel	56	<i>Spiraea Creeping</i>	20
Ocean Spray	22	<i>Spiraea, Mountain</i>	66
<i>Oplopanax horridum</i>	38	<i>Spiraea densiflora</i>	66
Orchid - see Bog Orchid,	55	<i>Spiranthes romanzoffiana</i>	7
Rattlesnake Orchid	8	Star-flower	33
<i>Oxyria digyna</i>	56	<i>Thalictrum occidentale</i>	60
Paintbrush, Indian	63	Thimbleberry	3
Painted Cup	63	<i>Tiarella unifoliata</i>	18
<i>Parnassia fimbriata</i>	19	<i>Trientalis arctica</i>	33
<i>Pedicularis bracteosa</i>	48	<i>Trollius laxus</i>	11
<i>Pedicularis racemosa</i>	49	Twayblade, Heart-leaved	59
<i>Penstemon fruticosus</i>		Twinberry, Black	50
(var. <i>scouleri</i>)	82	Twinflower	80
<i>Penstemon serrulatus</i>	83	<i>Vaccinium membranaceum</i>	78
<i>Petasites frigidus</i>	37	Valerian	34
<i>Phyllodoce empetrifloris</i>	76	<i>Valeriana sitchensis</i>	34
<i>Phyllodoce glanduliflora</i>	46	<i>Veratrum viride</i>	57
<i>Potentilla villosa</i>	41	Veronica, Alpine	87
Prince's Pine, Western	73	<i>Veronica wormskjoldii</i>	87
<i>Prunus emarginata</i>	2	<i>Viola glabella</i>	45
<i>Pyrola asarifolia</i>	74	<i>Viola renifolia</i>	24
<i>Pyrola secunda</i>	27	Violet, White	24
Pussytoes	36	Violet, Yellow	45
Queen's Cup	5	Wintergreen, Large	74
Ragwort, Giant	53	Wintergreen, One-flowered	28
<i>Ranunculus eschscholtzii</i>	42	Wintergreen, One-sided	27
Raspberry, Creeping	23	Wintergreen, Slender	32
Rattlesnake Orchid, Green-leaved	8	Willow-herb, Alpine	70
<i>Rhododendron albiflorum</i>	30	Willow-herb, Giant	71

MA82.8C213n

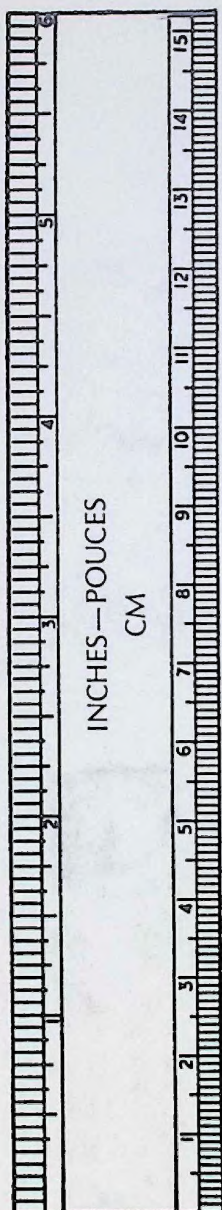
c.2

Canada. National Museums of
Natural Sciences.

Natural history series, no. 3,
1976. Copy 2.

DATE	ISSUED TO
8/09/29	K. Desrochers

INVENTORY
1976/1977
INVENTAIRE



FEB 2 1977